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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/042,913	01/11/2002	Jiang Fan	2312-PAT	4766

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EXAMINER

MERCADO, JULIAN A

ART UNIT PAPER NUMBER

1745

DATE MAILED: 05/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

AS

Office Action Summary	Application No. 10/042,913	Applicant(s) FAN ET AL.	
	Examiner Julian Mercado	Art Unit 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 9-31 is/are rejected.
- 7) ☐ Claim(s) 6-8 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1-2002</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Election/Restrictions

This application contains claims directed to the following patentably distinct species of the claimed invention:

- a. Group I, claim 23 is drawn to a battery cell cylindrical in shape.
- b. Group II, claim 24 is drawn to a battery cell prismatic in shape.

Claims 1-22 and 25-31 will be examined with either of Group I or Group II.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claim 1 is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to

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be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

During a telephone conversation with Donn Harms on May 11, 2004 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-23 and 25-31. Affirmation of this election must be made by applicant in replying to this Office action. Claim 24 is withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-5, 13-15, 18-24, 29-31 rejected under 35 U.S.C. 102(b) as being anticipated by Dasgupta et al. (U.S. Pat. 5,464,706).

Regarding independent claims 1, 5, 15, 26-31 and dependent claims 3, 4, 13, 20, 21, 22, 23, 24 where noted, Dasgupta et al. teaches a battery cell comprising a cell casing and a cell cap separated by an insulator [8] and a separator [5] which separates a first negative electrode active material [3] from a second positive electrode active material [4]. (Fig. 1, col. 5 line 23 et seq.) The electrodes are formed of lithium, *inter alia*. (applies to dependent claims 20, 21, col. 5 line 34-39) A first and second current collector is formed of a non-metallic material such as tape cast polypropylene with carbon particles dispersed therein, though in a preferred embodiment only the positive electrode employs the inventive non-metallic current collector. (col. 5 line 58-63, also applies to dependent claim 24) As shown in Figure 2, the lower surface of the current collector [16] for the positive electrode is in contact with the cell casing while its upper surface is in contact with the electrode [15]. The same applies for the negative electrode, as the non-metallic current collector is disclosed for both the positive and negative electrodes. (col. 5 line 14-20, see also col. 3 line 56-58 which discloses that "[c]urrent collectors are placed in close proximity to the respective external faces of the negative and positive electrodes".) As Dasgupta et al.'s battery is a coin-type cell, i.e. cylindrical in shape with the current collectors [12, 16] on the outer surfaces of the positive [15] and negative [13] electrode materials, respectively, it would naturally incorporate the claimed "means to bias" the first and second current collectors to the cell cap and casing upon compression of the battery during its assembly. (applies to dependent claims 3, 4, 13, 14, 15, 18, 19, 23, see Fig. 2)

As to dependent claims 26, 27 and 28, the limitations "charged upon manufacture to a maximum charge between 0 to 10%" and "whereby said battery cell may be shipped or stored without suffering corrosion or degradation" have not given patentable weight, as such language

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is construed as a statement of intended use which does not further limit the claim to a particular structure.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 9, 10, 11, 12, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dasgupta et al. as applied to claims 1, 3-5, 13-15, 18-24, 29-31 above, in view of Endo et al. (U.S. Pat. 6,022,641)

The teachings of Dasgupta et al. are discussed above.

Dasgupta et al. does not explicitly teach a fire retardant in the electrodes. However, Endo et al. teaches an additive such as lithium carbonate, *inter alia*, as part of the electrode active material. (see Examples 1-4 starting in col. 8 line 34 et seq.) The skilled artisan would find obvious to employ lithium carbonate in the electrode of Dasgupta et al.'s invention for reasons such as inhibiting deterioration of the cathode active material by acidic impurities. (see Endo et al. col. 3 line 13-22)

As to the additive being a fire retardant material, as the additive is identical to that disclosed and claimed by applicant, it would naturally flow to inherently have the same fire retardant properties, absent of a showing by applicant that the claimed invention distinguishes

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over the reference. *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977) and *In re Spada*, 15 USPQ 2d 1655 (Fed. Cir. 1990)

Allowable Subject Matter

Claims 6-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record and to the examiner's knowledge do not teach or render obvious at least to the skilled artisan the instant invention regarding a fire retardant material added to the current collector.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Pat. 5,051,325 to Shishikura et al. is cited of cumulative relevance in teaching a coin-type battery cell comprising a cell casing and a cell cap separated by an insulator [5], a first current collector [2] formed of metallic foil, i.e. expanded metal with a first electrode [6] in contact with its lower second surface (col. 14 line 3-16), a separator [3, 4] separating the first current collector/first electrode structure from a second current collector [2] and second electrode [1], and an upper first surface of the current collector in contact with the cell cap with the second current collector lower surface in contact with the cell casing.

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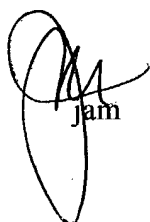
The IDS Paper filed January 11, 2002 has been fully considered except for JP 10-003945 as this reference is absent from the file. Applicant is reminded that citation of a non-English language reference without its accompanying translation, English-language abstract or statement of relevance would not be in compliance with MPEP 609. Applicant is requested to provide the JP 10-003945 reference and any of its related documents for the examiner's consideration.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian Mercado whose telephone number is (571) 272-1289. The examiner can normally be reached on Monday through Friday.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



jam



Patrick Ryan
Supervisory Patent Examiner
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